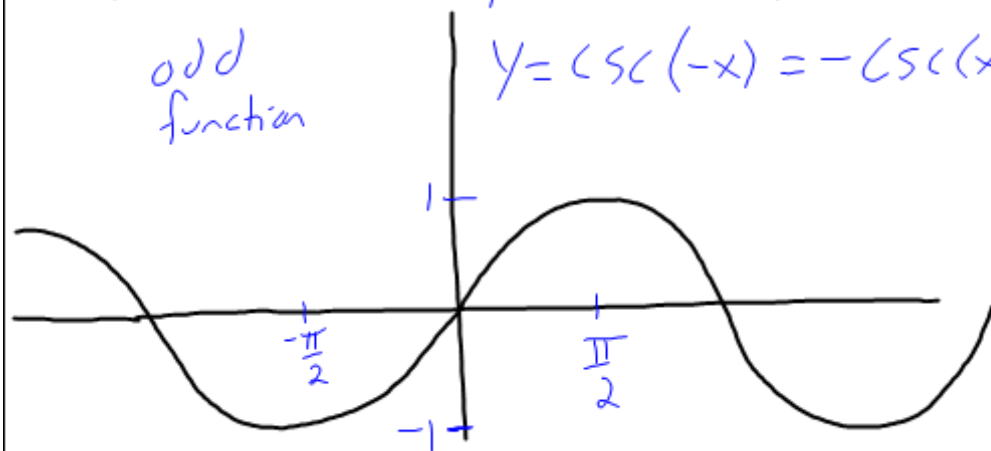


$$y = \sin x$$

odd  
function

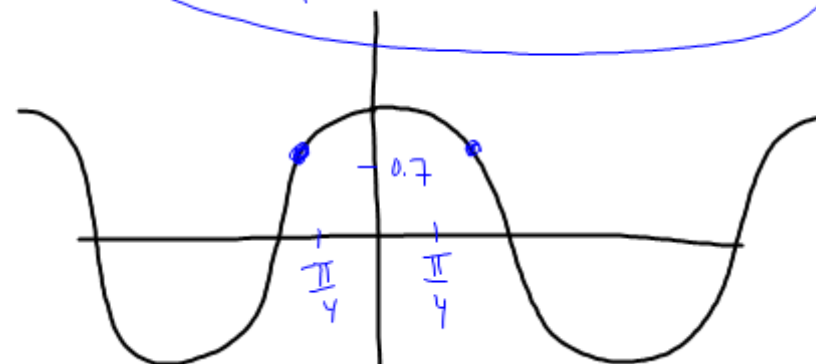


$$y = \sin(-x) = -\sin x$$

$$y = \csc(-x) = -\csc(x)$$

$$y = \cos x = \cos(-x)$$

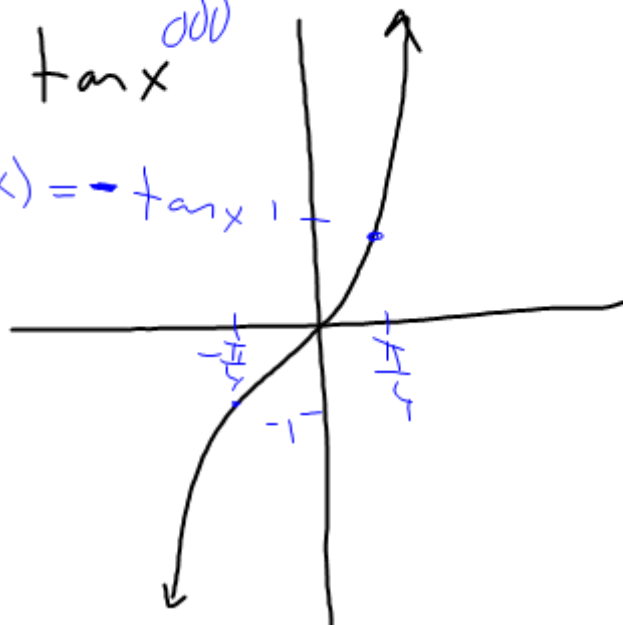
even  
function  $\sec(-x) = \sec(x)$



$$y = \tan x$$

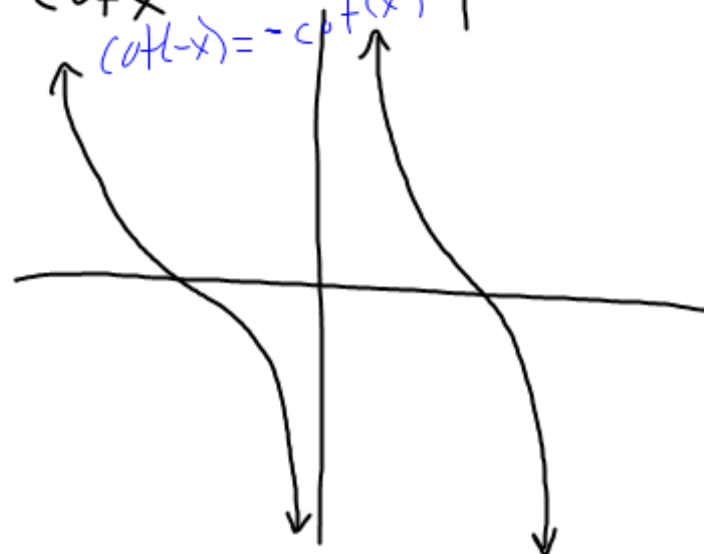
odd

$$\tan(-x) = -\tan x$$



$$y = \cot x$$

odd  
function  $\cot(-x) = -\cot(x)$



$$\sin \theta = \cos(90 - \theta)$$

$$\sin(A+B) = \cos(90 - (A+B))$$

$$\sin(A+B) = \cos(90-A-B)$$

$$\sin(A+B) = \sin A \cos B + \cos A \sin B$$

$$\sin(A-B) = \sin A \cos B - \cos A \sin B$$

$$\begin{array}{c} \cos(90-A) \cos B + \sin(90-A) \sin B \\ \downarrow \quad \downarrow \quad \downarrow \quad \downarrow \\ \sin A \cos B + \cos A \sin B \end{array}$$

$$\tan(A+B) = \frac{\tan A + \tan B}{1 - \tan A \tan B}$$

$$\tan(A-B) = \frac{\tan A - \tan B}{1 + \tan A \tan B}$$

$$\tan(A+B) = \frac{\sin(A+B)}{\cos(A+B)}$$

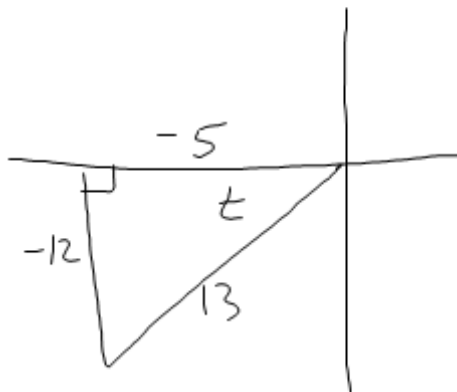
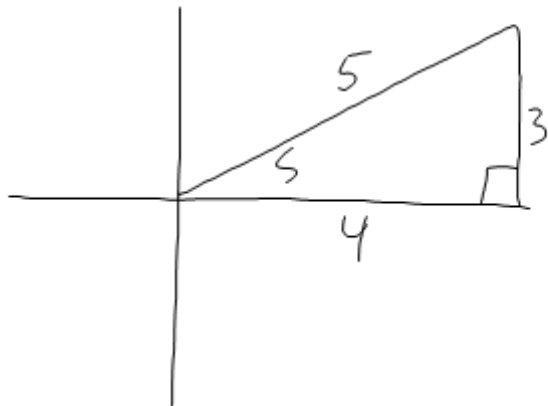
$$\frac{\sin A \cos B + \cos A \sin B}{\cos A \cos B - \sin A \sin B} \cdot \frac{\frac{1}{\cos A \cos B}}{\frac{1}{\cos A \cos B}}$$

$$\frac{\sin A \cos B}{\cos A \cos B} + \frac{\cos A \sin B}{\cos A \cos B}$$

$$\frac{\cos A \cos B}{\cos A \cos B} - \frac{\sin A \sin B}{\cos A \cos B}$$

$$\textcircled{11} \cos 40 \cos 50 - \sin 40 \sin 50 = \cos(40+50) \\ = \cos(90) = \boxed{0}$$

$$\textcircled{49} \sin s = \frac{3}{5} \quad \sin t = -\frac{12}{13}$$



$$\cos(s+t)$$

$$\cos s \cos t - \sin s \sin t$$

$$\downarrow$$

$$\frac{4}{5} \cdot \frac{-5}{13} - \frac{3}{5} \cdot \frac{-12}{13}$$

$$\frac{-20}{65} + \frac{36}{65} = \boxed{\frac{16}{65}}$$

sect 5.4

# 3-10, 15, 17, ~~26-30~~, 41, 42, 61